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EXAMINER	
WANG, EUGENIA	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/761,217	ARAKAWA, HIROSHI	
	Examiner	Art Unit	
	Eugenia Wang	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,6,7 and 9-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,6,7 and 9-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the amendment received December 27, 2007:

a. Claims 1, 3, 6, 7, and 9-12 are pending.

b. The core of the previous rejection has been maintained, with slight changes made necessitated by the amendment.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 3, 6, 7, and 9-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

c. Claims 1, 7, and 9 contain the opening of the pressure safety mechanism is lower than 1.5 MPa (line 13, line 4, and line 3, respectively). This is seen as new matter, since the claimed value is not within the Specification. Examiner suggests replacing 1.5 MPa with 0.991 MPa, which is the pressure associated

with a charging current of 50A (see para 0028). Since claims 2, 6, and 10-12 are dependent on either claims 1, 7, or 9, they are rejected for the same reason.

d. Claims 1, 7, and 10 contain the word "approximately" to describe either or both the charging current (approximately 50 amps) and the opening pressure (approximately 1.5 MPa) (see lines 13-14, lines 3-4, and line 2, respectively). Since "approximately" has not seen used to describe either the charging current or opening pressure, it constitutes new matter, as the approximation was not originally appreciated. Examiner suggests removing "approximately" from the claim language. Since claims 2, 6, 9, 11, and 12 are dependent on either claims 1, 7, or 10, they are rejected for the same reason.

3. Claims 1, 3, 6, 7, and 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 7, and 10 contain the word "approximately" to describe either or both the charging current (approximately 50 amps) and the opening pressure (approximately 1.5 MPa) (see lines 13-14, lines 3-4, and line 2, respectively). The term approximately is seen to be indefinite, because it is not clear as to what is reasonably encompassed by that term. Furthermore, the Specification does not provide any guidelines as to what values would fall under approximately 1.5 MPa or approximately 50 amps. Examiner suggests removing the aforementioned language from the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 3, and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over over US 2002/016554 (Nemoto et al.) as evidenced by US 2002/0102458 (Maleki et al.).

As to claims 1, 3, and 6, Nemoto et al. teach a lithium secondary battery that has a pressure release valve at the end portion of the battery as a safety mechanism for preventing accidents caused from the rise of a battery's internal pressure due to evaporation of electrolyte solution in the case where the battery temperature rises by over-charging or over-discharging (as applied to claims 1 and 3) (para 0141). Figure 14(a) and 14(b) show the ends of the battery. Groove [85] in figure 14(a) acts as a pressure release valve, since it is torn due to mechanical weakening caused by the rising internal pressure, thus releasing the internal pressure (para 142, lines 6-16). In

figure 14(b), metal foil [83], which covers hole [86] bursts to release internal pressure making it a pressure release valve as well (para 0143). It is inherent that these pressure release valves would only open when internal pressure of the battery reached a certain pressure that can be preset (as applied to claims 1 and 3). This pressure check system that starts when battery over-charging commences inherently would release the internal pressure (in the form of evaporated electrolyte solution) before an internal short-circuit occurs (as applied to claim 1).

Although Nemoto et al. does not specifically internal pressure, over-charging/discharging, and a temperature rise to an internal short circuit (as claimed by claim 1 of the instant application), a relationship between the aforementioned conditions inherently exists, as evidenced by Maleki et al. Maleki et al. talks about Li-ion batteries under abusive conditions, with the abusive conditions being short circuit (thus encompassing internal and external), over-charging, over-discharging, and operation at high temperatures (para 0005). These abusive conditions release combustive gases (note gas release is synonymous with rising internal pressure within a given system) (para 0005). Thus, over-charging/discharging as well as short circuit both result in an increase of internal pressure within a battery system. Therefore, the battery of Nemoto et al. activates the safety mechanism 10 seconds before an inside short-circuit occurs, as the purpose of the safety valve is to prevent such abusive condition, and thus cases where Nemoto et al.'s battery vents without short-circuiting would inherently exist.

Furthermore, the battery of Nemoto et al. would at least be capable of activated ten seconds or more before an inside short-circuit occurs, as the pressure at which

venting occurs is controllable. Thus, by venting at a pressure lower than that indicative of a short circuit would prevent short circuiting, and thus have the safety mechanism activate before the internal short-circuit occurs.

It has been held that the recitation of an element is "capable" of performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson,* 69 USPQ 138.

While intended use recitations and other types of functional language cannot be entirely disregarded. However, in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). See also MPEP § 2114.

The manner of operating the device does not differentiate an apparatus claim from the prior art. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural

limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Furthermore, it is noted that this characteristic would still inherently occur at the specified charging current of approximately 50 amps and an opening pressure lower than 1.5 MPa.

Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)

In the case of the instant application the basis for expectation of inherency is that the battery of Nemoto et al. is structurally the same as the claimed battery and therefore behaves or at the very least is capable of behaving in the same manner (see above for Office's position on "capable of" with respect to apparatus claims). Furthermore, the instant application links current, pressure, and time difference (see para 0028), which supports the fact that they are operational conditions, and that under the condition of a

charging current of 50 amps and an opening pressure of 1.5 MPa, the resultant of a time difference of activation to short-circuit of ten seconds or more, and vice versa. Therefore, the position is taken that since the apparatus of Nemoto et al. and the claimed invention of instant application are the same, both will behave in the same manner under the same operational conditions (i.e. at a charging current of approximately 50 amps and an opening pressure of the safety mechanism lower than 1.5 MPa that the safety mechanism is activated ten or more seconds before the inside short-circuit occurs.).

The Examiner requires applicant to provide that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product.

Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of invention, but only that the subject matter is in fact inherent in the prior art reference. Schering Corp. v. Geneva Pharm. Inc., 339 F.3d 1373, 1377, 67.

Additionally, the battery structure in Nemoto et al.'s invention can be applied to batteries used as a motor driving power source, such as an electric vehicle or a hybrid electric vehicle (para 0053, lines 15-19) (as applied to claim 6).

The difference between the teachings of Nemoto et al. and claim 1 is that Nemoto et al. do not teach that the amount of electrolytic solution provided to a lithium ion secondary battery is equal to or larger than the amount shown by the inflection point.

However, the optimum amount electrolytic solution to be used is a result effective variable based on the rate of gas decomposition and the internal space of the battery. Discovery of optimum of result effective variable in known process is ordinarily within the skill of art. (In re Boesch, 205 USPQ 215 (CCPA 1980).) Selection of optimum ranges within the prior art's general condition is obvious. (In re Aller, 105 USPQ 233(CCPA 1955))

Therefore it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to alter the result effective variable of the amount of electrolytic solution provided in order to optimize the amount provide with respect to the space available inside the battery and the decomposition rate of the electrolytic solution.

5. Claims 7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nemoto et al. in view of US6696197 (Inagaki et al.), as evidenced by Maleki et al. and US 6437542 (Liaw et al.),

As to claims 7 and 9 Nemoto et al. teach a lithium secondary battery that has a pressure release valve at the end portion of the battery as a safety mechanism for preventing accidents caused from the rise of a battery's internal pressure due to evaporation of electrolyte solution in the case where the battery temperature rises by over-charging or over-discharging (as applied to claims 7 and 9) (para 0141). Figure 14(a) and 14(b) show the ends of the battery. Groove [85] in figure 14(a) acts as a pressure release valve, since it is torn due to mechanical weakening caused by the rising internal pressure, thus releasing the internal pressure (para 142, lines 6-16). In figure 14(b), metal foil [83], which covers hole [86] bursts to release internal pressure making it a pressure release valve as well (para 0143). It is inherent that these pressure release valves would only open when internal pressure of the battery reached a certain pressure that can be preset (as applied to claims 7 and 9). This pressure check system that starts when battery over-charging commences inherently would release the internal pressure (in the form of evaporated electrolyte solution) before an internal short-circuit occurs (as applied to claim 7).

Although Nemoto et al. does not specifically internal pressure, over-charging/discharging, and a temperature rise to an internal short circuit (as claimed by claim 7 of the instant application), a relationship between the aforementioned conditions inherently exists, as evidenced by Maleki et al. Maleki et al. talks about Li-ion batteries under abusive conditions, with the abusive conditions being short circuit (thus encompassing internal and external), over-charging, over-discharging, and operation at high temperatures (para 0005). These abusive conditions release combustive gases

(note gas release is synonymous with rising internal pressure within a given system) (para 0005). Thus, over-charging/discharging (corresponding to a first time) as well as short circuit (corresponding to a second time) both result in an increase of internal pressure within a battery system.

Additionally Nemoto et al. does not specifically link internal pressure to charge current. However, Liaw et al. teach that internal pressure can have multiple dependencies including time, operating temperature, ambient pressure, voltage range, current level, charge inputs (charging current) (col 2, lines 19-26).

For simplicity's sake, it is summarized that Maleki et al. and Liaw et al. are evidentiary pieces that show that short-circuiting is related to internal pressure, which is also related to time and charge inputs (charging current).

The differences between the teachings of Nemoto et al. and claim 7 is that Nemoto et al. do not teach that (a) the amount of electrolytic solution provided to a lithium ion secondary battery is equal to or larger than the amount shown by the inflection point and (b) at a charging current of approximately 50 amps and an opening pressure safety mechanism lower than approximately 1.5 MPa that the safety mechanism used to discharge the decomposition gas has an underlying basis of two times the first time is from overcharging to discharging and the second time is from overcharging to inside short-circuiting with the difference between the two times being ten seconds or more.

As to (a), the optimum amount electrolytic solution to be used is a result effective variable based on the rate of gas decomposition and the internal space of the battery.

Discovery of optimum of result effective variable in known process is ordinarily within the skill of art. (In re Boesch, 205 USPQ 215 (CCPA 1980).) Selection of optimum ranges within the prior art's general condition is obvious. (In re Aller, 105 USPQ 233(CCPA 1955))

Therefore it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to alter the result effective variable of the amount of electrolytic solution provided in order to optimize the amount provide with respect to the space available inside the battery and the decomposition rate of the electrolytic solution.

As to (b), Inagaki et al. teaches the fact that the electrolyte (electrolytic solution) can be ignited by an internal short-circuit (col. 13, lines 15-23). Therefore the gas decomposed from the electrolytic solution is flammable as well.

The motivation for venting the decomposed gas prior to short-circuiting, as taught by Nemoto et al., is to prevent this situation. In order to do this, the two aforementioned times must be found, and the difference between the two times provide the amount of time between the two provide the time that is available for venting, which can be used to ensure the completion of venting before short-circuiting (i.e. 10 seconds or more, as claimed by the instant application). Ignition is thus a result effective variable based on the two previously mentioned times.

The applicant shows that the longer the time period between the difference of the two aforementioned times, the less likely ignition will occur. This relationship is what would be expected, as Ingaki et al. mentions the flammability of the electrolytic solution.

Discovery of an optimum of result effective variable in known process is ordinarily within the skill of art. (In re Boesch, 205 USPQ 215 (CCPA 1980).) Selection of optimum ranges within the prior art's general condition is obvious. (In re Aller, 105 USPQ 233(CCPA 1955)) It is also important to reiterate that internal pressure is directly affected by over-charging and increases due to the evaporation of the electrolytic solution (as applied to claim 9) (Nemoto et al., para 0141). Therefore the pressure at which the safety valve is preset to open can be calculated with respect to the difference between the two aforementioned times.

Therefore it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to base the activation of the battery's safety mechanism on the two aforementioned times (including their application to internal pressure) in order to prevent ignition of the decomposition gas.

Recall that Maleki et al. and Liaw et al. are evidentiary pieces that show that short-circuiting is related to internal pressure, which is also related to time and charge inputs (charging current). Therefore optimizing the time period between venting and short-circuiting (as obviated above) would consequently lead to optimizing the safety mechanism activation pressure with respect to the charging current, as they are all interconnected. Since none of the aforementioned variables are asserted to be more critical than another, it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to provide a preset opening pressure at a charging current acceptable to the battery (i.e. 1.5 MPa corresponding to 50 amps) in

order produce the predictable result of a battery that opens the safely vent before short circuiting to prevent ignition.

As to claims 9 and 10, neither Nemoto et al. nor Inagaki et al. specifically notes that the preset pressure is lower than 1.5 MPa (thus opening at such a pressure to discharge internal pressure from decomposed gas), wherein the preset pressure is based on (a) a relationship between the pressure at which the safety valve opens and the difference between the second time and the first time (as required by claim 9) or (b) the charging current (50 amps) of the battery.

It is first noted that within the rejection to claim 7, Nemoto et al. teaches opening a safety valve to release internal pressure (from the decomposed gas), Liaw et al. and Maleki et al. show that short-circuiting is related to internal pressure, which is also related to time and charge inputs (charging current). Additionally, Inagaki et al. teaches the fact that the electrolyte (electrolytic solution) can be ignited by an internal short-circuit (col. 13, lines 15-23). Therefore the gas decomposed from the electrolytic solution is flammable as well, thus giving motivation for venting the decomposed gas ten seconds prior to short-circuiting to prevent this situation (refer back to rejection to claim 7).

Therefore optimizing the time period between venting and short-circuiting (as obviated in the rejection to claim 7) would consequently lead to optimizing the safety mechanism activation pressure with respect to the charging current, as they are all interconnected. Therefore, it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to provide a preset opening pressure

at a charging current acceptable to the battery (i.e. 1.5 MPa corresponding to 50 amps) in order produce a battery with the predictable result of opening the safely vent before short circuiting to prevent ignition (barring a proof of unexpected results or criticality).

As to claim 11, the difference between the teachings Nemoto et al. and Inagaki et al. do not explicitly teach that the amount of electrolytic solution provided to a lithium ion secondary battery based on the difference between the first and second time. However, the amount of electrolytic solution that can be provided to the battery is inherently dependent on the amount of internal space of the battery, the rate of gas decomposition, and the opening of the safety valve. The safety valve (as taught by Nemoto et al.) is pressure dependent, which not only indicates the amount of gas decomposition but also relates to the difference between the first and second time (see rejection for claims 7 and 9). Since the discharge of decomposition gas can be linked to the amount of space in the battery and the pressure inside the battery, a relationship can be drawn between the difference between the first and second time and the amount of electrolytic solution that can be supplied to it.

As to claim 12, neither nor Nemoto et al. and Inagaki et al. specifically mention that charging current is a basis for the amount of electrolytic solution provided to the lithium ion secondary battery.

However, as noted before, Liaw is used to show that internal pressure, time, operating temperature, ambient pressure, voltage range, current level, and charge inputs are connected (col 2, lines 19-26). Additionally, time has already been established as a variable that affects the electrolytic solution amount (see rejections for

claim 11). Since none of the aforementioned variables are asserted to be more critical than another, it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to provide a certain amount of electrolytic solution using any of the aforementioned variables (in this case charge input/current level) in order to provide the necessary amount of electrolytic solution needed by the battery.

Response to Arguments

6. Applicant's arguments filed December 27, 2007 have been fully considered but they are not persuasive.

Applicant argues that that the new limitation (namely that a safety mechanism in a lithium ion secondary battery is activated ten seconds or more before an inside short circuit occurs at a charging current of approximately 50 amps and an opening pressure of the safety mechanism lower than approximately 1.5 MPa) is not obvious.

Examiner respectfully disagrees. With respect to the apparatus claim (claim 1), this is merely an operational condition. Applicant has failed to show that the apparatus of Nemoto et al. is different than that of the instant application. Therefore, the apparatus of Nemoto et al. at the very least capable of operating in the same manner under the same conditions. With respect to the method claim (claim 7), Examiner has set forth the fact that charging current, internal pressure, and time to short circuiting are interrelated (see the rejection for details), which would all be of knowledge to one of ordinary skill in the art. Therefore, ensuring safety of the battery (venting a certain amount of time prior to short-circuiting), consequently relates to charging current (any set amount appropriate for the battery) and thus the set pressure for safety mechanism

activation (set at a pressure in order to allow the appropriate amount of time for venting to occur). Thus manipulating the variables with respect to one another in order to obtain the predictable result of having a safe, operational battery would have been within the skill of the ordinary artisan (barring a showing of any unexpected results).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugenia Wang whose telephone number is 571-272-4942. The examiner can normally be reached on 7 - 4:30 Mon. - Thurs., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EW

GREGG CANTELMO
PRIMARY EXAMINER